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CANADA  
DEPARTMENT OF AGRICULTURE

A FARM BUSINESS STUDY (WITH PARTICULAR REFERENCE  
TO THE RELATION OF FARM TYPES AND LAND CLASS.  
CORY-ASQUITH-LANGHAM AREA, SASKATCHEWAN 1943.

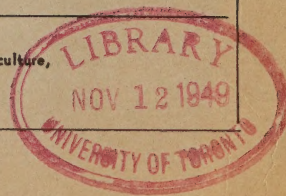
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A FARM BUSINESS STUDY WITH PARTICULAR REFERENCE TO THE  
RELATION OF FARM TYPES AND LAND CLASS  
CORY-ASQUITH-LANGHAM AREA, SASKATCHEWAN 1943

R. A. Stutt<sup>1</sup>

INTRODUCTION

In the prairie region of Saskatchewan, wheat is the most important cultivated crop. Here by reason of temperature and the seasonal, limited and varied rainfall together with Saskatchewan's location with respect to markets, there are few farm enterprises which offer a more profitable use for the land other than wheat. -Wheat is grown, too, in the parkland and to a less extent in the woodland regions usually as a major crop. However, there are other crops which can compete here more successfully. As a result, in the transitional areas between the prairie and parkland, through the parkland region and into the woodland region other crops besides wheat, and combinations of these crops with livestock are more typical of the farm organization than in the open plains.

Due to the dominance of wheat in the farm economy of Saskatchewan, the economic classification of lands in the Province has been based on the suitability and productive capacity of lands for this use. The net

- 
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The author wishes to acknowledge the advice and assistance from Dr. C. C. Spence, Economics Division, Dominion Department of Agriculture, Edmonton, and Professor H. Van Vliet, Head of the Department of Farm Management, University of Saskatchewan. Acknowledgment is also made of the assistance of W.J. Anderson, P.J. Thair, R.G. Knowles, W.B. Baker, Langford Oddie, W.B. Clarke and Miss Helen Shaw, of the Economics Division, in carrying on the field work and in the analysis of the data.

returns from this crop have generally been higher than from alternative crops and other uses of the land.

Since the profitableness of wheat compared with alternative uses of the land is less in the parkland and woodland regions than on the open plains, the employment of 'wheat use capability' for classifying land in these less restricted crop growing regions might not be adequate. With this in mind this study of the farm businesses of the Cory-Asquith-Langham area with particular reference to the relation of farm types and land class was undertaken<sup>1</sup>. The area is fairly representative of farm types generally found in the transitional areas between the open plains and the parkland and in the parkland region, with the exception of the whole milk farms near Saskatoon.

#### THE AREA

##### Location and the Survey

The area covered included the rural municipalities of Cory No. 344, Vanscoy No. 345, Warman No. 373, Park No. 375 and parts of Dundurn No. 314.

In the months of June, July and August 1943, farm business records were obtained from 492 farms in these rural municipalities which will be

- 
1. (a) An Economic classification of Land in Fifty-Six Municipal Divisions, South Central Saskatchewan. C.C. Spence and E.C. Hope. Technical Bulletin No. 36, Dominion Department of Agriculture.
  - (b) An Economic Classification of Land and Its Relation to Farm Income, Eyebrow-Lacadena Area, Saskatchewan, 1939-1940. C.C. Spence, S. Mysak and R.A. Stutt. Processed Report, Dominion Department of Agriculture.
  - (c) An Economic Classification of Land in the Weyburn-Estevan Area, Saskatchewan, 1941. R.A. Stutt and S. Mysak. Processed Report. Dominion Department of Agriculture.
  - (d) An Economic Classification of Land and Its Relation to Farm Types and Income, Blucher-Colonsay Area, Saskatchewan, 1940-1941. C.C. Spence. Processed Report.
  - (e) An Economic Classification of Land in the Elrose-Rosetown-Conquest Area, Saskatchewan, 1944. Processed Report. Dominion Department of Agriculture.



referred to as the Cory-Asquith-Langham area. Supplementary records pertaining to the Level of Living of farm families were obtained from approximately 225 of these co-operators<sup>1</sup>.

The classification of the land in the area was made in 1943 and 1944 on the same basis as used for the prairie region. In addition to the economic survey, information from other sources including the field notes of the Saskatchewan Assessment Commission and aerial photographs was used in classifying the land. The final field check of the classification of the land was made in October 1944.

#### Service Facilities

The city of Saskatoon is the main trading centre and the other service centres are Delisle, Dalmeny and Langham. Small centres are Vanscoy, Asquith, Warman and Osler.

Nearly all parts of this area are within a radius of 35 miles of the city of Saskatoon and most of the farm people do their shopping there due to the wide range of service facilities to be found. The social and entertainment advantages also serve to attract the rural people to the city and as a result the small towns have not expanded, although certain wartime circumstances such as lack of gasoline and tires arrested this trend.

The area is well served with paved and gravelled highways and municipal roads are fairly good in most communities. Railway facilities are also adequate. Many farmers, particularly those close to the city of Saskatoon, obtain their mail there. There are also several rural

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1. Level of Living of Farm Families in Representative Rural Areas of Western Canada. F.M. Edwards, H.E. Elliott and H.M. Turnbull. Unpublished Report. Dominion Department of Agriculture.

mail delivery routes, mail being delivered bi-weekly.

Another worthy service bearing on diets and nutrition, is the cold meat storage at Saskatoon. A number of housewives take advantage of this service and obtain meat from the lockers on their regular shopping dates. This is a very valuable service but is restricted to farm families within a relatively small radius.

It was surprising to find such a small proportion of farm homes with electricity despite the fact that power lines ran past some of the farms. There are some farms, on the other hand, which have small farm electric plants run by a gas engine or by a wind-power.

#### Climate

The climate of this area is typical of the greater part of the Province, which is described as north temperate intercontinental. It is semi-arid to sub-humid. The variation of temperature as between seasons and often from day to day may be extreme.

The average annual precipitation at Saskatoon for the thirty year period from 1906-1935, was 13.54 inches as compared with 14.92 at Swift Current, 17.70 at Indian Head and 15.85 at Prince Albert<sup>1</sup>. The highest annual precipitation of any year was 21.01 inches in 1921 and the lowest was 9.77 inches in 1933. The average precipitation for the crop season was 11.20 inches for the 1906-1935 period; the highest precipitation at 18.36 inches was in 1923 and the lowest at 5.50 inches was in 1937.

The average date of last killing frost (29°F. or lower) in the spring for the period 1919-1943 was May 13, with the most frequent dates

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1. Agricultural Extension Bulletin No. 18. Rainfall Records for Saskatchewan. Contributed by the Field Husbandry Department, University of Saskatchewan.



ranging from May 15 to May 19 of any five day period. The average date of first killing frost (29°F. or lower) in the fall was September 22 for the same period at Saskatoon, with the most frequent dates being between September 25 and September 30.

Table I gives a summary of information relating to the frost free period at Saskatoon. While the average frost free period is 131 days, the extreme range is from 116 to 151 days, excluding 1930. In 1930, the frost free period was only 100 days. The average frost-free period at Prince Albert for 1919-1943 is also 131 days, and at Lost River, in north-eastern Saskatchewan, the frost-free period is 116 days.

Table I.

FREQUENCY OF DATES OF LAST KILLING SPRING FROSTS AND FIRST KILLING FALL FROSTS AT SASKATOON<sup>1</sup>, 1919-1943

Last Killing Spring Frosts			First Killing Fall Frosts		
Date	No. of Years of Occurrence		Date	No. of Years of Occurrence	
April 24 - 30	4		Sept. 1 - 4	2	
May 1 - 4	2		5 - 9	1	
5 - 9	3		10 - 14	3	
10 - 14	3		15 - 19	3	
15 - 19	5		20 - 24	4	
20 - 24	4		25 - 30	9	
25 - 31	3		Oct. 1 - 4	1	
June 1 - 2	1		5 - 9	1	
			10 - 14	-	
			15	1	
Average dates May 13th			September 22nd		
Range April 24 - June 2 (1922) (1919)			Sept. 1 - Oct. 15 (1930) (1938)		
Average frost-free period 131 days					
Range 100 days (1930) - 151 days (1928)					

1. Annual Report of Field Management Experiments, 1943. Field Husbandry Department, University of Saskatchewan.

### Soils

Wide differences in soil type are found within the area.<sup>1</sup> Two soil associations, namely, Elstow and Asquith, are predominant, although soil of the Weyburn, Oxbow, Meota, Biggar and Blaine Lake associations also occur.

Most of the area is located within the Dark Brown soil zone. About three townships on the north edge of R.M. Warman No. 374, are in the Black soil zone. Soils in this latter area were developed under grassland conditions and range from mixed Dark Brown soils to shallow Black soils. Local groves or "bluffs" of aspen and willow are characteristic.

The better agricultural soils are Elstow clay, clay loams, silt loam to silty clay loams and Blaine Lake loams. Soils of the first mentioned association are found mainly in R.M. No. 344, and in the west part of R.M. Vanscoy No. 345. Soils of the Blaine Lake association are north and east of Langham.

Fair agricultural soils include Elstow loam, silt loam, Weyburn loam and light loam, Asquith light loam, Oxbow loam, Meota loam and mixtures of these. Relatively large areas of these soils are found in R.M. Vanscoy No. 345 and in the north part of Warman No. 374.

Extensive areas of less desirable soils are found in R.M. Vanscoy No. 345, R.M. Park No. 375, R.M. Warman No. 374 and in the block south of the city of Saskatoon. These include fine sandy loams, light loams and loams with gravelly phases, sandy loams, very fine sandy loams of the Asquith, Weyburn, Biggar, Meota and Whitesand associations.

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<sup>1</sup>. The reader is referred to Soil Report No. 12, University of Saskatchewan, for a full description and report on these soils.



Soils of inferior quality and of low agricultural value for cereal production include Biggar gravelly loam, sand, dune sand, alkali and mixtures of these. These soils have low drought resisting qualities for cereal production, but on account of the relatively high water table, where they occur they are more productive in raising of deep rooted legume crops and are supporting successful livestock farming, mainly darying.

#### Rural Population

Rural population in this area has not changed appreciably in the last twenty years. (See Table II).

Table II. RURAL POPULATION FOR THE 1926-1941 CENSUS YEARS  
CORY-ASQUITH-LANGHAM AREA<sup>1</sup>

Year	Cory No. 344	Vanscoy No. 345	Park No. 375	Warman No. 374
1926	2502	2133	2155	4477
1931	2923	2089	2212	5070
1936	2464	1890	2170	4791
1941	2307	1684	1850	4696

Includes unincorporated hamlets and farm population

The rural population figures for rural municipality No. 374 indicates that this municipality has slightly more than double the average rural population of the other municipalites. Several Mennonite villages, which include Neuhorst, Neuanlage, Reinland, Rosenfeld, Blumenheim, Gruenfeld, Gruenthal, Hochfeld, Hochstadt and Blumenthal, were located there. Families of this national group are relatively large, as are the Doukhobour families in the western part of this municipality and in rural municipality No. 375 of Park.

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1. Census of Canada.

## THE ECONOMIC CLASSIFICATION OF LAND

The classification of this land was done on the same basis as was the classification of other parts of the prairie regions. Briefly this consisted of rating parcels of land based on the history of wheat yields of their predominate soil type or types in the district, and their potential cultivable acreage. From the ratings translated into terms of potential income earnings, classes were established with land class 1 describing the least productive or lowest income capability to land class 5 the most productive or highest income capability.

With wheat as the major source of income, the economic significance of the classification rests in the relation which the probable income to be expected from a quarter section of land in any one of the land classes bears to the probable income from a quarter section of land which is "at the margin for wheat production" for an average sized farm and is described as Land Class II.

### Proportion of Total Area in Each Land Class

In the four municipal divisions included in this report, 31.2 per cent of the land area was classified as Land Class I or submarginal for wheat; 30.7 per cent was classified as Land Class II or at the margin for wheat; 29.0 per cent was classified as Land Class III or fair wheat lands; 8.4 per cent was classified as Land Class IV or good wheat lands; and only 0.6 per cent was classified as Land Class V or excellent wheat land.

The acreages and proportions of the land area in each land class, arranged according to municipal divisions, are shown in Table III. In the rural municipality of Cory No. 344, which adjoins the city of Saskatoon, about one half of the area was either submarginal or marginal for wheat production, while in all the other municipal divisions the proportion in these land classes was considerably greater, particularly in the rural municipality of Park No. 375.



**ECONOMIC CLASSIFICATION OF LAND**  
**CORY-ASQUITH-LANGHAM AREA**

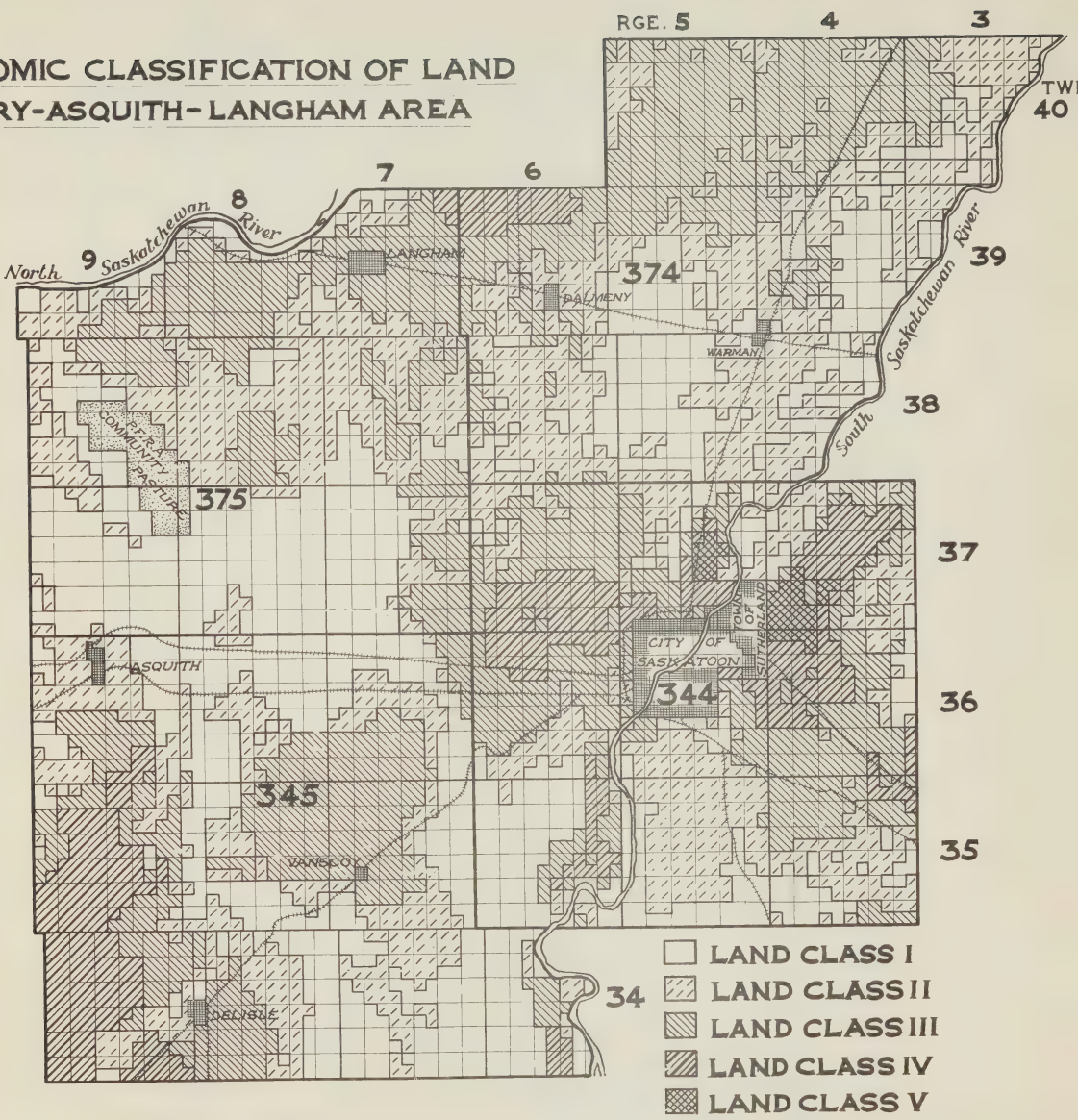






TABLE III. ACREAGE AND PERCENTAGE OF TOTAL LAND AREA IN EACH LAND CLASS BY RURAL MUNICIPALITIES  
CORY-ASQUITH-LANGHAM AREA, 1943

Rural Municipality	Total Acres	Land Class I		Land Class II		Land Class III		Land Class IV		Land Class V	
		Total Acres	Per Cent	Total Acres	Per Cent	Total Acres	Per Cent	Total Acres	Per Cent	Total Acres	Per Cent
Cory No. 344	187,270	39,915	21.3	50,984	27.2	59,855	32.0	31,899	17.0	4,617	2.5
Vanscoy No. 345	212,682	73,680	34.7	54,250	25.5	57,499	27.0	27,253	12.8	-	-
Warman No. 374	193,622	51,232	26.5	76,954	39.7	60,501	31.2	4,935	2.6	-	-
Park No. 375	181,911	77,071	42.4	56,217	30.9	47,827	26.3	796	0.4	-	-
Total	775,485	241,898	31.2	238,405	30.7	225,682	29.1	64,883	8.4	4,617	0.6
74 Municipal Divisions											
South Central Sask.											
(up to end of 16,099,000											
1941 survey)											
112 Municipal Divisions											
(up to end of 22,910,000											
1946 survey)											

A Description of the Area by Land Classes

The largest block in Land Class I lies between Asquith and Grandora and extends northward for about six miles. It is comprised mainly of sandy soils, sand to "Asquith" fine sandy loam and other soil associations mixed with sand. A large proportion of the fluid milk shippers to Saskatoon are found in this block. Another large block is in the eastern part of the rural municipality of Vanscoy No. 345 and in the south west corner of the rural municipality of Cory No. 344. It is also comprised of dune sand, "Asquith" very fine sandy loam and "Asquith" light loam to fine sandy loam. Scattered tracts in this same class run from the south-east corner of the rural municipality of Vanscoy No. 345 to the north-west corner just east of Asquith. These are also inferior lands from the standpoint of soil, many parcels being included in the Rice Lake drainage area and tending to be alkaline.

Two general tracts of land submarginal for wheat were designated in the rural municipality of Warman No. 374. One borders the provincial highway No. 12, north of Saskatoon, and includes "Biggar" gravelly loam and gravelly phases of "Weyburn" light loam. This tract has been abandoned for a number of years for cereal grain production and has poor drought resisting qualities. A smaller tract of "Biggar" gravelly loam and light loam of a stony phase was found east of the hamlets of Warman and Osler.

Scattered parcels in Land Class II are found in all municipal divisions with probably the greatest concentration in the southern part of the rural municipality of Warman, the middle part of the rural municipality of Park and south of Saskatoon. These parcels are about 60 to 90 per cent arable.. Their soils are mainly light textured and possess poor drought resisting qualities and are very subject to soil



erosion. Past performance for wheat production of the Land Class I & II parcels has been unfavourable.

Parcels located on "Elstow" loam to "Asquith" light loam, "Elstow" loam or silt loam and "Oxbow" loam, with about 120 to 135 acres arable, of level to undulating topography, with only a moderate amount of stones, are typical of Land Class III. Tracts around Floral, in the south-eastern part of the rural municipality of Cory, that directly north of Vanscoy and the north-central part of the rural municipality of Warman, are representative of this land class. Some parcels located on clay loams and clays were rated as such due to insufficient acres arable or other less favourable characteristics.

Parcels graded as Land Class IV were generally of clay loam or clay texture and with more favourable farming characteristics than Land Class III. There is a relatively large block of this grade of land in the south-west portion of the rural municipality of Vanscoy, a smaller block immediately west and north-west of Saskatoon, and a small one north of Dalmeny, located on "Blaine Lake" clay loam soil.

A very small tract was classified as Land Class V comprising "Elstow" clay soil east of the town of Sutherland and around the abandoned townsite of Factoria, north and east of Saskatoon. Parcels here are practically 100 per cent cultivatable, free from stones, level to undulating and relatively well drained.

#### Ownership

The proportion of private ownership of land in this area was higher than in any of the land classification survey areas of South-Central Saskatchewan, particularly of persons within the locality. In this area,

Table VI.

PROPORTION OF OCCUPIED ACREAGE OWNER OPERATED, RENTED AND LEASED FOR WHOLE AREA BY LAND CLASSES. CORY-ASQUITH-LANGHAM AREA, 1943

	Land Class					Total
	I	II	III	IV	V	
	Per Cent					
Owned	47.3	49.7	55.8	58.2	52.0	51.6
Rented	46.3	47.9	41.8	38.7	48.0	44.8
Leased Grazing	3.1	0.1	0.1	-	-	1.0
Other	3.3	2.3	2.3	3.1	-	2.6
	100.0	100.0	100.0	100.0	100.0	100.0
Total Acres	215101	237242	225206	64723	4617	746889

#### Occupied Farms

In this area there were 1676 occupied farms in 1943. All land operated as one unit with the same labor force and equipment was termed an 'occupied farm'. The land may have been owned, rented or leased or may be held under any of these combinations and a farm unit may be operated jointly by more than one operator - e.g. father and son arrangement.

Only 7016 acres was held under grazing lease from the Department of Natural Resources, which is one per cent of the total occupied area. However, a large acreage was leased for pasture and hay from land companies and private persons. Out of 121 farmers leasing pasture land, 102 or about 84 per cent, had only one or two parcels. There were only 8 farmers holding four or five parcels and none over this amount.

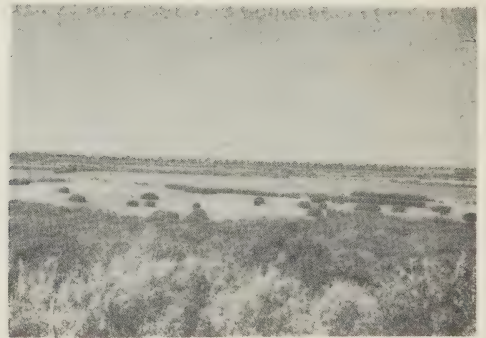
The following table gives the distribution of occupied farms by rural municipality and according to land class.



Farmstead of a livestock-crop (mixed) farm set-up  
located on the banks of the South Saskatchewan River.



Inferior land, submarginal for wheat  
production.



Low lying lands used for hay production.





Table VII.  
NUMBERS AND PERCENTAGE OF OCCUPIED FARMS IN EACH LAND CLASS OR CLASSES ACCORDING TO RURAL MUNICIPALITY  
CORY-ASQUITH-LANGHAM AREA, 1943

	Total		Cory		Vanscoy		Warman		Park	
	No. of Per Farms Cent	No. of Per Farms Cent	No. of Per Farms Cent	No. of Per Farms Cent	No. of Per Farms Cent	No. of Per Farms Cent	No. of Per Farms Cent	No. of Per Farms Cent	No. of Per Farms Cent	No. of Per Farms Cent
Farms wholly in Land Class I	227	13.5	40	11.0	54	14.4	55	10.4	78	19.1
Predominantly in Class I with part in Land Class II	104	6.2	11	3.0	37	9.9	33	6.2	23	5.6
Predominantly in Class I with part in Land Class III or higher	27	1.6	7	1.9	8	2.2	7	1.3	5	1.2
	358	21.3	58	15.9	99	26.5	95	17.9	106	25.9
Farms wholly in Land Class II	313	18.7	54	14.8	44	11.7	123	23.3	92	22.5
Predominantly in Class II with part in Land Class I	178	10.6	37	10.2	47	12.6	51	9.6	43	10.5
Predominantly in Class II with part in Land Class III or higher	100	6.0	27	7.4	13	3.5	42	7.9	18	4.4
	591	35.3	118	32.4	104	27.8	216	40.8	153	37.4
Farms wholly in Land Class III	353	21.1	75	20.6	56	15.0	140	26.5	82	20.1
Predominantly in Class III with part in Land Class I and/or II	195	11.6	22	6.1	52	13.9	56	10.6	65	15.9
Predominantly in Class III with part in Land Class IV and/or V	30	1.8	16	4.4	8	2.1	4	0.8	2	0.5
	578	34.5	113	31.1	116	31.0	200	37.9	149	36.5
Farms wholly in Land Class IV	83	5.0	34	9.4	33	8.8	15	2.8	1	0.2
Predominantly in Class IV with part in Land Class I and/or II	14	0.8	7	1.9	7	1.9	-	-	-	-
Predominantly in Class IV with part in Land Class III and/or V	42	2.5	24	6.6	15	4.0	3	0.6	-	-
	139	8.3	65	17.9	55	14.7	18	3.4	1	0.2





Nearly equal proportions of farms have the greater part of the farm unit in Land Class II or Land Class III. Over thirty-five per cent of the occupied farms were wholly or predominantly in Land Class II, as compared with about 34 per cent in Land Class III. This was the case in all rural municipalities. Approximately one-fifth of the farms were located in Land Class I, on land definitely unsuited for wheat production. About 9 per cent of the farm units were located mainly on good or excellent wheat lands (Land Classes IV and V), and were found almost wholly in the rural municipalities of Cory No. 344 and Vanscoy No. 345.

The size of farm was slightly over 400 acres for occupied farms predominantly on Land Class I, II and III, slightly higher for Land Class IV farms (474 acres), and 625 acres for those on the superior grade of land. This is shown in Table VIII.

Table VIII.

AVERAGE SIZE OF OCCUPIED FARMS AND AVERAGE ACRES ARABLE ACCORDING  
TO EACH LAND CLASS OR COMBINATION OF LAND CLASSES.  
CORY-ASQUITH-LANGHAM AREA, 1943.

	No. of Farms	Average Size (Total Acres)	Acres Arable	Per Cent Arable
Farms wholly in Land Class I	227	310	105	34.0
Predominantly in Class I with part in Land Class II	104	587	317	54.0
Predominantly in Class I with part in Land Class III or higher	27	555	312	56.2
Predominantly Land Class I	358	409	182	44.6
Farms wholly in Land Class II	313	283	229	81.0
Predominantly in Class II with part in Land Class I	178	553	375	67.9
Predominantly in Class II with part in Land Class III or higher	100	572	474	82.8
Predominantly Land Class II	591	413	315	76.1
Farms wholly in Land Class III	353	298	276	92.5
Predominantly in Class III with part in Land Class I and/or II	195	547	436	79.7
Predominantly in Class III with part in Land Class IV and/or V	30	739	671	90.7
Predominantly Land Class III	578	405	350	86.5
Farms wholly in Land Class IV	83	336	322	95.8
Predominantly in Class IV with part in Land Class I and/or II	14	732	602	82.2
Predominantly in Class IV with part in Land Class III and/or V	42	661	604	91.4
Predominantly Land Class IV	139	474	435	91.8
Farms wholly in Land Class V	3	576	571	99.1
Predominantly in Class V with part in other land classes (mostly L.C. IV)	7	646	618	95.6
Predominantly Land Class V	10	625	604	96.6
All farms	1676	416	310	74.7

Arability of land increased from an average of 44.6 per cent on farms with the greater part in Land Class I to 96.6 per cent for Land Class V farms.

Where the farm unit was located wholly in single land class, the size of farm was smaller than for farms composed of land in more than one class.

Assessed Values of Occupied Lands in Relation to Land Class

A new assessment of land by the Saskatchewan Assessment Commission was conducted in this area in 1941, based on the productive capacity of the land.<sup>1</sup>

Occupied lands for which a valuation had been given in the re-assessment have been arranged according to land class and rural municipality and are shown in Table IX.

- 
1. The Saskatchewan System of Rural Land Assessment. T.H. Freeman. Scientific Agriculture 21:7, March, 1941.



Table IX.

ASSESSED VALUE OF OCCUPIED LAND BY LAND CLASSES AND RURAL MUNICIPALITIES<sup>1</sup> CORY-ASQUITH-LANGHAM AREA, 1943.

R.M.	Total Ac.	Land Class I		Land Class II		Land Class III		Total Ac.	ASSESSED Value	per Acre
		ASSESSED Value	per Acre	ASSESSED Value	per Acre	ASSESSED Value	per Acre			
		\$	\$			\$	\$		\$	\$
Cory	38440	178355	4.64	49372	411505	8.33	57309	751500	13.11	
Vanscoy	68097	229340	3.37	53875	395600	7.34	56749	728040	12.83	
Warman	50268	184495	3.67	76954	606630	7.88	60501	810735	13.40	
Park	69647	225924	3.24	56217	464050	8.25	47827	582000	12.17	
Total	226452	818114	3.61	236418	1877785	7.94	222386	2872275	12.92	

R.M.	Total Ac.	Land Class IV		Land Class V		All Land Classes		Total Ac.	ASSESSED Value	per Acre
		ASSESSED Value	per Acre	ASSESSED Value	per Acre	ASSESSED Value	per Acre			
Cory	30939	593615	19.19	4617	111560	24.16	180677	2046535	11.33	
Vanscoy	27253	483783	17.75	-	-	-	205974	1836763	8.92	
Warman	4935	94650	19.18	-	-	-	192658	1696510	8.81	
Park	796	14700	18.47	-	-	-	174487	1286674	7.37	
Total	63923	1186748	18.57	4617	111560	24.16	753796	6866482	9.11	

1. Parcels in P. F. R. A community pastures and some other parcels belonging to municipality, crown, etc., were not given values in reassessment and hence are excluded.

Variations in assessments as between comparable grades of land in different rural municipalities of this area appear slight and indicate a high degree of uniformity in assessment field work.

#### Soil Erosion

Information as to the type, extent and severity of soil erosion was obtained from the field sheets of the rural land assessors. This type of damage and loss of soil fertility has not been very apparent and public attention has not been directed to it. Nevertheless, large areas are being seriously affected, the erosion being accentuated by faulty farm practices.

In this area, wind has been the main cause of soil erosion. Land has been damaged through a removal of the top soil in some parts and through accumulations in other parts. The first type was found mainly on rougher topography phases, while the latter was found on the lighter textured soils of more level topography.

Table X shows the type of soil erosion according to land class and by number of quarter sections affected.

Table X. TYPE OF SOIL EROSION ARRANGED ACCORDING TO LAND CLASS BY QUARTER SECTIONS  
CORY-ASQUITH-LANGHAM AREA, 1943

Type of Erosion	I			II			III			IV			V			All Land Classes	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Wind Erosion	1020	67.1	1512	94.0	1466	94.2	397	93.8	30	100.0	4425	86.1					
Water Erosion	-	-	-	-	1	-	-	-	-	-	1	-					
Wind and Water Erosion	33	2.2	60	3.7	44	2.8	4	1.0	-	-	141	2.8					
No Damage	467	30.7	37	2.3	46	3.0	22	5.2	-	-	572	11.1					
Total with Information	1520	100.0	1609	100.0	1557	100.0	423	100.0	30	100.0	5139	100.0					
Total with no information	141		18		20		9		-		188						
Total	1661		1627		1577		432		30		5327						



About 89 per cent of the quarter sections were affected by soil erosion, mainly by wind. Only one parcel was affected by water erosion, while 141 parcels were affected by a combination of wind and water.

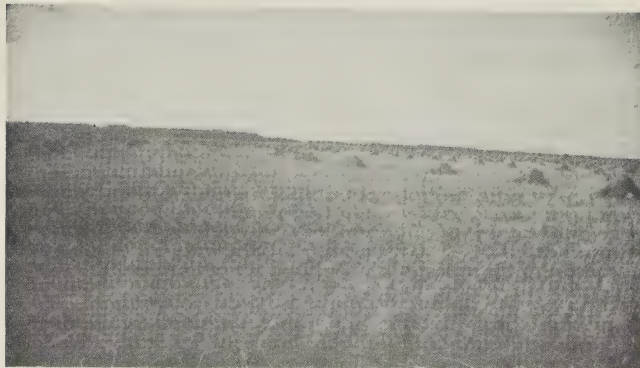
Less soil erosion was indicated on Land Class I parcels although it should be pointed out that only 27 per cent of the land area in this land class was broken. In the other land classes nearly all parcels were partly or wholly affected.

To indicate the extent and severity of soil erosion the information has been arranged according to the acres affected and the severity of the damage. A summary of this information is shown in Table XI.

The table indicates that generally the fair to good wheat land parcels are affected to a larger extent than are the marginal and submarginal ones. However, as shown in Table XI, soil erosion is developing on all grades of land and unless properly controlled will create serious problems.

Table XI. EXTENT OF SOIL EROSION ACCORDING TO LAND CLASS BY QUARTER SECTIONS  
CORY-ASQUITH-LANGHAM AREA, 1943

Extent of Erosion	Land Class										All Land	
	I		II		III		IV		V		Classes	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
No Damage	467	30.7	37	2.3	46	3.0	22	5.2	-	-	572	11.1
Up to 40 Acres Affected:												
Slight	215	14.1	11	0.7	3	0.1	1	0.2	-	-	230	4.5
Moderate	19	1.3	1	-	-	-	-	-	-	-	20	0.4
Severe	22	1.5	-	-	-	-	-	-	-	-	22	0.4
41-80 Acres Affected:												
Slight	303	19.9	79	4.9	18	1.2	1	0.2	-	-	401	7.8
Moderate	43	2.8	1	-	-	-	-	-	-	-	44	0.9
Severe	11	0.7	-	-	-	-	-	-	-	-	11	0.2
Over 80 Acres Affected:												
Slight	300	19.8	1363	84.8	1482	95.2	399	94.4	30	100.0	3574	69.6
Moderate	82	5.4	108	6.7	8	0.5	-	-	-	-	198	3.8
Severe	58	3.8	9	0.6	-	-	-	-	-	-	67	1.3
Total with Information	1520	100.0	1609	100.0	1557	100.0	423	100.0	30	100.0	5139	100.0
Total with no Information	141		18		20		9		-		188	
Total	1661		1627		1577		432		30		5327	



Wheat crop in 1943 on land rated as 'good wheat land' or Land Class IV.



Farmstead with fine shelter belt and showing an improved pasture field adjoining the buildings.





### Relation of Wheat Yields to the Soil

An analysis was made of the average wheat yields by years since 1921 for five soil groups in this area. Wheat yield histories, as obtained from 492 records of the 1943 study, were tabulated together with the 110 yield records obtained in the 1941 Blucher-Colonsay study<sup>1</sup> of farms located on comparable soils.

Five soil groups were established. Soil Group I included sandy and coarse textured soils, such as sand, dune sands, Asquith fine sandy loams to fine sand, Asquith very fine sandy loams and Biggar gravelly loams. Soil Group II included fine sandy loams and mixtures with light loams of the Asquith, Biggar, Meeta and Weyburn soil associations. Those included in Soil Group III were mainly Weyburn, Asquith, Oxbow and Elstow light loams, loams and silt loams.

Soil Group IV included clay loam and silty clay loam soils of the Elstow associations and clay loams of the Weyburn and Blaine Lake group as well as alluvial clay. Soil Group V contains clay and silty clay soils of the Elstow associations.

Table XII shows the average wheat yields for four different periods. Averages of the 1921-1936 period, used in land classification of south Saskatchewan, were 11.3, 12.6, 13.3, 14.4 and 15.5 bushels per acre for Soil Groups I to V respectively.

The average yields of wheat for these different periods were compared with the average yields of the four rural municipalities of this area, as reported by the Statistics Branch, Department of Agriculture, Regina. The average yield for the 1921-1936 period, as

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1. An Economic Classification of Land and Its Relation to Farm Types and Incomes. Blucher-Colonsay Area, Saskatchewan, 1940-41. C.C. Spence. Processed Report.

reported by the Statistics Branch, was 12.9 as compared with 13.2 from the economic survey. The average yields for the 1921-1940, 1925-1940 and 1921-1942 periods, from the reports of the Statistics Branch, are 12.2, 11.9 and 12.5 respectively. The very small difference between these two sources of information gives a considerable amount of confidence in the averages obtained by Soil Groups.

Table XII. AVERAGE WHEAT YIELDS BY SOIL GROUPS, 1943 FARM BUSINESS AND 1941 YIELD RECORDS

	Soil Groups					All Groups
	I	II	III	IV	V	
	bus.	bus.	bus.	bus.	bus.	bus.
1921-1936	11.3	12.6	13.3	14.4	15.5	13.2
1921-1940	10.9	11.5	12.3	13.5	15.0	12.3
1925-1940	10.4	11.0	12.0	13.3	14.0	11.8
1921-1942	11.2	12.5	13.0	16.5	15.3	13.0

It was noticeable that the spread between the yields of the light textured and heavy textured soils was not as great in the Cory-Asquith-Langham area as was found between yields of similarly textured soils in areas classified in south Saskatchewan. Table XIII shows the average yields of comparable soil groups in the Eyebrow-Lacadena, Weyburn-Estevan and the Cory-Asquith-Langham areas for the 1921-1936 period.

The higher moisture efficiency of soils in the Cory-Asquith-Langham area is apparent on examination of these yields. Lower temperatures prevailing in this area account for the slower rate of evaporation of moisture. The yields of Soil Group V are very close in all areas. There is a preponderance of heavy clays in the figures for

Eyebrow-Lacadens and Weyburn-Estevan, whereas soils in this group in the Cory-Asquith-Langham area are mainly clays and silty clay loams. The soil profile is also somewhat shallower in the latter area. Comparable heavy clay soils in areas near Saskatoon would be expected to average somewhat higher yields of wheat.

The 1921-1936 wheat yields were used in the land classification of this area.

Table XIII.

AVERAGE WHEAT YIELDS FOR PERIOD 1921-1936 IN THREE AREAS OF SASKATCHEWAN. ECONOMIC SURVEYS, 1940-1941 & 1943

Soil Group	Eyebrow- Lacadena bus.	Weyburn- Estevan bus.	Cory-Asquith- Langham bus.
I	7.0	-	11.3
II	9.1	10.0	12.6
III	10.5	10.8	13.3
IV	13.5	12.8	14.4
V	15.6	15.5	15.5

The variability in yield found in the various soil groups was great. Excluding 1937<sup>1</sup>, wheat yields on Soil Group I ranged from a low of 4.8 bushels per acre in 1938 to a high of 18.6 bushels per acre in 1923. Wheat yields on Soil Group II ranged from a low of 4.9 in 1933 to 23.2 bushels per acre in 1942. Comparable figures on Soil Groups III, IV and V for the low year, were 7.6 in 1933, 0.0 in 1932 and 6.9 bushels, respectively. The year of the highest yield for Soil Group III was 24.1 bushels in 1942, 35.0 bushels for Soil Group IV in 1923 and 29.9 bushels per acre for Soil Group V in 1942.

1. In 1937 a complete crop failure was general throughout the Province and this year was excluded in comparing the variability. Yields on Soil Group I were 0.4 bushels per acre in that year as compared with 3.8 bushels per acre on Soil Group V.



Tabulated according to predominant land class, the 1942 wheat yields were 15.3, 21.8, 24.9 and 27.8 bushels per acre for Land Class I, II, III and IV, respectively. There was no significant difference in wheat yields according to farm type, within each predominant land class.

#### Farm Housing Conditions

The condition, age and size of farm buildings are considered fairly reliable indications of economic conditions and prosperity in areas settled for a reasonable length of time.

As the farm home is the focal point in the farm layout, information pertaining to farm dwellings is of special interest. It reflects generally the satisfactions enjoyed by farm families and their economic status.

In this area nearly half of the 483 farm houses, for which information was available, were rated as being in poor condition. Only about 10 per cent were graded as being in good condition and about two fifths were in fair condition. The condition rating was placed on the farm houses by the enumerators and was comparable with the method used in other areas. It is a relative rating based on the apparent state or condition of the structures. Special note was made of poor foundations, faulty roofs, lack of paint, windows, etc.

Table XIV gives a distribution of farm houses by condition rating according to predominant land class.



A very suitable farm home of relatively large investment and in excellent condition.



A typical barn found on fluid milk shipping farms, about fourteen miles west of Saskatoon.



A view of a typical Mennonite village north of Saskatoon. Note house in foreground with the barn at the rear.



Mennonite village scene showing the length of the lots. Many have gardens adjacent to the home.



Table XIV.

DISTRIBUTION OF FARM HOUSES BY CONDITION RATING ACCORDING TO  
PREDOMINANT LAND CLASS. CORY-ASQUITH-LANGHAM AREA, 1943

	Predominant Land Class								All Land Classes	
	No.	%	No.	%	No.	%	No.	%	No.	%
Poor condition	80	58.8	88	52.1	60	40.2	8	25.8	236	48.9
Fair condition	48	35.3	70	41.4	65	44.2	18	58.1	201	41.6
Good condition	8	5.9	11	6.5	22	15.0	5	16.1	46	9.5
Total	136	100.0	169	100.0	147	100.0	31	100.0	483	100.0

Generally the poorer farm houses were found in Land Class I and II and those graded as in fair or good condition were in Land Classes III and IV. Farm houses on crop farms were generally superior to those on livestock and general or mixed farms, but somewhat inferior to those on the farms producing fluid milk. This relationship was true for all classes of land.

In this area about 42 per cent of all farm houses were of small investment; 50 per cent were of medium investment and only 8 per cent were of large investment. Generally speaking, houses having one, two or three rooms were rated as having small investment, houses having four to six rooms were rated as having a medium investment and houses having seven rooms or more were rated as having a large investment. The amount of investment was given more weight than the number of rooms or the actual measurements of the house in arriving at the ratings for size.



Table XV.

DISTRIBUTION OF FARM HOUSES BY SIZE ACCORDING TO PREDOMINANT  
LAND CLASS. CORY-ASQUITH-LANGHAM AREA, 1943

	Predominant Land Class								All Land	
	I		II		III		IV		Classes	
	No.	%	No.	%	No.	%	No.	%	No.	%
All small investment	74	54.4	73	43.2	49	33.3	5	16.1	201	41.6
All medium investment	59	43.4	79	46.7	81	55.1	23	74.2	242	50.1
All large investment	3	2.2	17	10.1	17	11.6	3	9.7	40	8.3
Total	136	100.0	169	100.0	147	100.0	31	100.0	483	100.0

Tables XIV and XV indicate that over one half the farm houses in Land Class I were of small size and in poor condition, while only one in six were of small size and one quarter were in poor condition in Land Class IV.

Farm houses were of more recent construction in Land Class I and II as compared with Land Classes III and IV. This fact appears to be contrary to the information presented with regard to condition and size. The farm houses on the poorer grades of land probably were not of a good type of construction, probably built on poor foundation and constructed by poor workmanship. It seems that they were rath jobs, poorly constructed, due mainly to lack of funds. Table XVI gives the distribution according to age of house for the different grades of land.

Table XVI.

DISTRIBUTION OF FARM HOUSES BY AGE GROUPS ACCORDING TO PREDOMINANT LAND CLASS. CORY-ASQUITH-LANGHAM AREA, 1943

	Predominant Land Class								All Land Classes	
	I		II		III		IV			
	No.	%	No.	%	No.	%	No.	%	No.	%
Age of House (as of 1943)										
1 - 10	17	22.6	20	21.0	16	19.0	-	-	53	19.6
11 - 20	14	18.7	18	18.9	22	26.2	3	18.8	57	21.1
21 - 30	26	34.7	28	29.5	23	27.4	4	25.0	81	30.0
31 - 40	16	21.3	28	29.5	20	23.8	8	50.0	72	26.7
41 and over	2	2.7	1	1.1	3	3.6	1	6.2	7	2.6
Total	75	100.0	95	100.0	84	100.0	16	100.0	270	100.0

Farm operators were asked the amount of repair expense needed to put their houses into satisfactory condition. Twenty-three per cent of them said that it was necessary to rebuild the farm house. Two-thirds said the house needed repairing and only 10 per cent claimed that the house did not need any repairs.

Farm houses in this area in poor to fair condition, which were considered capable of being repaired, were reported to need an average of \$300 to put them into a livable condition, according to the statement of the farm operators. Where repairs over this amount were required, most of the farmers felt it was more satisfactory to rebuild the house. Exceptions to this would include houses rated as being of large investment in fair to good condition, and medium investment houses of good condition.

Ratings were also placed on farmsteads based on size or amount of investment and state of repair. Table XVII shows that over half the farmsteads in Land Classes I and II were unattractive, with a small or medium investment and badly in need of repair. Farmsteads were generally more attractive in the higher land classes.

Table XVII.

RATINGS OF FARMSTEADS ACCORDING TO PREDOMINANT LAND CLASS  
CORY-ASQUITH-LANGHAM AREA, 1943

	Predominant Land Class								All Land	
	I		II		III		IV		Classes	
	No.	%	No.	%	No.	%	No.	%	No.	%
Unattractive farmstead, small and medium size bldg., badly in need of repair, representing a small investment.	83	59.3	86	50.6	42	28.2	7	22.6	218	44.5
Small to medium size bldgs., fair state of repair, somewhat larger investment.	44	31.4	57	33.5	56	37.6	13	41.9	170	34.7
Medium size bldgs., in good repair, substantial investment.	11	7.9	23	13.5	32	21.5	9	29.0	75	15.3
Attractive farmstead, large bldgs., good repair, comparatively large investment.	2	1.4	3	1.8	14	9.4	2	6.5	21	4.3
Very large bldgs., excellent repair, very large investment.	-	-	1	0.6	5	3.3	-	-	6	1.2
TOTAL	140	100.0	170	100.0	149	100.0	31	100.0	490	100.0

The farmsteads of the farms producing fluid milk were generally superior to all other farm types.

FARM ORGANIZATION  
Farm Types<sup>1</sup>

As this area lies in the transitional Dark Brown soil zone, it was expected that considerable variations would be found in the type of farming. The more northerly location of this area results in a less rapid rate of evaporation and hence coarse grains compete more advantageously with wheat than in south and south-west Saskatchewan.

Another important influence on the type of farming in this area is the local market available in the city of Saskatoon. The milk shed of the Saskatoon area extends beyond the boundaries of this survey area and for a large proportion of farms, milk receipts are an important source of income.

Table XVIII gives the distribution of type of farm according to the predominant land class. Livestock farms were fewest in number and were located mainly in Land Class I.

- 
1. An analysis of 51 crop farms and 43 livestock farms was made to determine the average efficiency of labor for crop and livestock production. These farms were selected on the following basis:
    - (1) crop farms - farms requiring some labor (paid or unpaid) in addition to the farm operator, and having 5.0 or less productive livestock units. The duties of the farm operator were assumed to require eight months of labor.
    - (2) livestock farms - farms having some labor (paid or unpaid) in addition to the farm operator and 20.0 or more productive livestock units. The farm operator was assumed to be employed on the farm for the full twelve months.

On the basis of this analysis, one man equivalent, on the average, could handle 339 acres of cropland or 38 productive livestock units. This degree of performance compares favourably with that in northern pioneer area (An Economic Study of Land Settlement in Representative Pioneer Areas of Northern Saskatchewan. R.A. Stutt and H. Van Vliet. Technical Bulletin No. 52, Dominion Department of Agriculture), where



one man equivalent could handle 145 acres of cropland or 22 productive livestock units.

The acres of cropland and productive livestock units for each record were multiplied by the standard rates and the proportion of labor required for crops and livestock calculated. It was decided to designate crop farms as those farms which devoted 77 per cent or more of the labor requirements to crops, and livestock farms as those devoting 37 per cent or more of the labor requirements to livestock. Farms in an intermediate position were called general or mixed farms. Livestock or mixed farms deriving their gross income mainly from dairy sales were termed fluid milk shippers. Table XVIII.

DISTRIBUTION OF TYPE OF FARM ACCORDING TO PREDOMINANT LAND CLASS,  
CORY-ASQUITH-LANGHAM AREA, 1943

	Land Class								All Land	
	I		II		III		IV		Classes	
	No.	%	No.	%	No.	%	No.	%	No.	%
Crop	25	17.8	55	32.0	59	39.6	18	58.1	157	31.9
Livestock	46	32.9	32	18.6	8	5.4	-	-	86	17.5
General or Mixed	23	16.4	46	26.7	48	32.2	8	25.8	125	25.4
Fluid Milk Shippers	46	32.9	39	22.7	34	22.8	5	16.1	124	25.2

Utilization of Land

While the farms by predominant land classes (excluding leased land did not show any significant differences in size, the extent of improvement and utilization did. Grouped together by predominant land class, all types of farms averaged 431, 449, 485 and 487 assessed acres for Land Classes I to IV, respectively. The proportion of improved land increased from 56.8 per cent on Land Class I to 91.0 per cent on Land Class IV.

Size of farm averaged 479, 351, 387 and 574 acres for crop, livestock, general or mixed and farms producing fluid milk, respectively. The percentage of total are improved was 83, 59, 78 and 69 for the respective types.

The percentage of total area devoted to various uses is given in Table XIX and graphically portrayed in Figure 1, for each predominant land class and for each type of farm.

Nearly half of the acreage of occupied farms located in Land Class I was used for pasture. The percentage gradually decreased until only about 12 per cent was devoted to pasture in Land Class IV.

The percentage of total area devoted to wheat in 1942 ranged from an average of about 9 per cent in Land Class I to about 30 per cent in Land Class IV. The proportion in oats and barley was about the same on all grades of land, while the proportion used for other crops decreased on the better grades of land.

Wide ranges in land improvement and land use were apparent for the type of farming followed by farm operators on the different grades of land. This is clearly shown in Table XIX. In Land Class I, wheat production was significant mainly on crop farms. Similarly, summerfallow was practised to a greater extent by farm operators of this farm type on submarginal lands.

Table XIX.

AVERAGE UTILIZATION OF LAND ACCORDING TO TYPE OF FARM AND  
PREDOMINANT LAND CLASS. CORY-ASQUITH-LANGHAM AREA, 1943

	Crop Farms				Livestock Farms			
	I	II	III	IV	I	II	III	IV
Number of Farms	25	55	59	18	46	32	8	-
Total Acres	424	466	508	503	375	320	330	-
	Per Cent							
Wheat	17.5	23.4	26.4	35.8	7.5	14.0	23.9	-
Oats and Barley	18.4	18.2	21.8	17.5	16.8	24.7	26.7	-
Other Crops	6.1	6.0	4.7	7.4	10.1	10.3	1.5	-
Fallow	26.2	27.5	31.3	30.2	9.9	16.6	21.8	-
Pasture <sup>1</sup>	31.8	24.9	15.8	9.1	55.7	34.4	26.1	-

	Mixed Farms				Fluid Milk Farms			
	I	II	III	IV	I	II	III	IV
Number of Farms	23	46	48	8	46	39	34	5
Total Acres	363	343	438	397	525	657	546	572
	Per Cent							
Wheat	11.6	21.6	25.8	21.7	4.2	16.7	21.6	23.1
Oats and Barley	18.2	21.6	23.3	27.7	26.5	25.9	27.1	33.9
Other Crops	12.7	9.0	6.2	9.3	9.3	8.1	6.6	1.7
Fallow	12.9	22.2	23.3	30.0	9.3	19.2	20.0	21.5
Pasture <sup>1</sup>	44.6	25.6	21.4	11.3	50.7	30.1	24.7	19.8

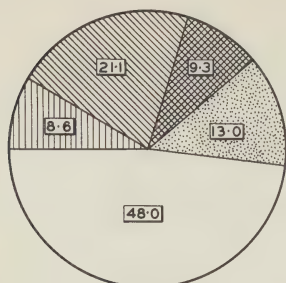
1. Principally native grass pasture.

In 1942 oats and barley were very important crops on all farm types and grades of land, especially for farms producing fluid milk. Rye production was confined to a large extent to livestock and mixed farms on lands graded submarginal for wheat production. The production of flax was confined mainly to crop and mixed farms located in Land Class IV.

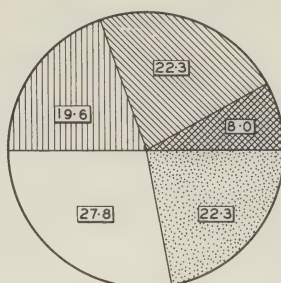
Improved pasture of alfalfa, sweet clover and grasses was greatest on the lighter textured soils, graded mainly as Land Class I. The

# UTILIZATION OF LAND INCLUDED IN BUSINESS STUDY CORY-ASQUITH-LANGHAM AREA, FOR THE CROP YEAR ENDING APRIL 30, 1943

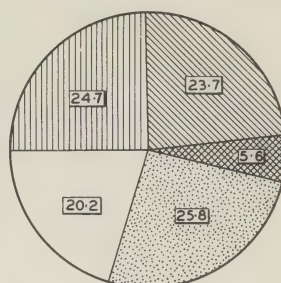
PERCENTAGE OF TOTAL AREA DEVOTED TO VARIOUS USES ACCORDING TO PREDOMINANT LAND CLASS



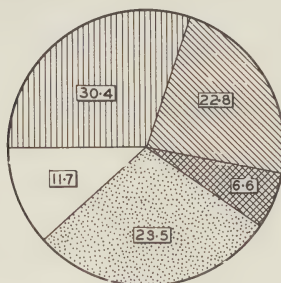
LAND CLASS I



LAND CLASS II



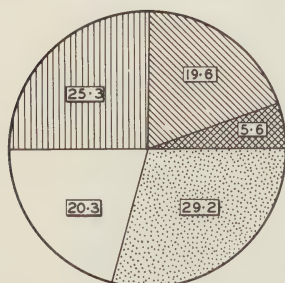
LAND CLASS III



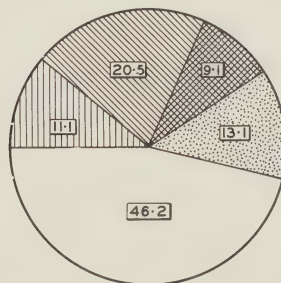
LAND CLASS IV



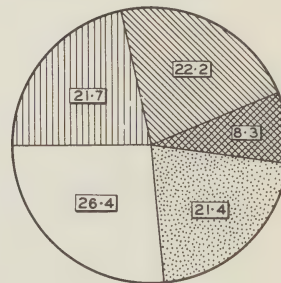
PERCENTAGE OF TOTAL AREA DEVOTED TO VARIOUS USES ACCORDING TO TYPE OF FARM



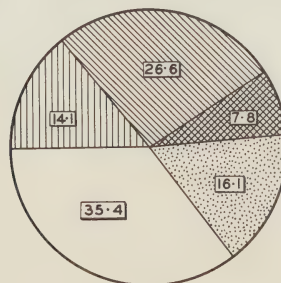
CROP



LIVE STOCK



MIXED



FLUID MILK SHIPPERS







acreage of these crops averaged 31 acres for farms producing fluid milk, 18 acres for mixed farms, 6 acres for livestock farms and only 3 acres for crop farms, on this grade of land. Improved crop rotations and cropping practices are also indicated for farms favouring livestock production in Land Classes II and III which are in accordance with measures recommended for control of soil erosion and improvement of soil fertility.

Some evidence of abandonment was noted on land graded as marginal or submarginal for wheat production. The small amounts indicated only parts of the present occupied farms and did not include farms completely abandoned. The extent of abandonment was fully indicated in Table V.

### Livestock

The greatest concentration of productive livestock was found on the poorer grades of land. Cattle were the chief kind of livestock. As there are large areas of unarable pasture lands in the poorer grades of land (Land Classes I and II), this was to be expected. Table XX shows the distribution of each class of productive livestock and of work horses according to predominant land class. The livestock numbers were calculated in terms of animal units.<sup>1</sup>

- 
1. One cow was considered to be equivalent to one animal unit, one heifer or steer as two-thirds of an animal unit and a calf as one-third. Seven ewes or fourteen lambs raised to market weight were considered as one animal unit, a sow or boar as one-third of an animal unit and a two hundred pound hog as one-fifth of an animal unit. One hundred poultry were considered as one animal unit. The beginning and ending inventories of all classes of livestock, with the exception of hogs, were averaged in determining the numbers. In the case of hogs, which are kept on the farm for only a relatively short period in the year, average values of the beginning and ending inventories, farm used, sales and purchases were weighted by the average price received per hog during the year under review.

Table XX.

LIVESTOCK PER FARM ACCORDING TO PREDOMINANT LAND CLASS  
CORY-ASQUITH-LANGHAM AREA, 1943

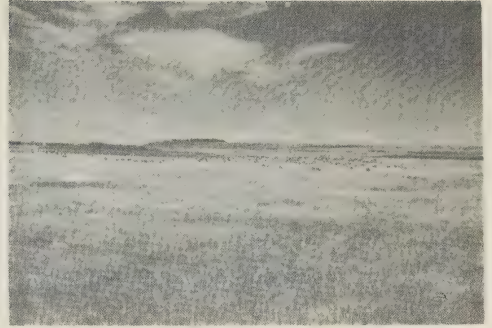
	Land Class			
	I	II	III	IV
Number of Farms	140	172	149	31
	(Animal units per farm)			
Cattle	13.8	11.0	9.8	8.2
Hogs	1.8	2.6	3.2	3.4
Sheep	0.3	0.4	0.5	-
Poultry	0.6	0.7	0.7	0.8
Total Productive Livestock	16.5	14.7	14.2	12.4
Number of Work Horses	5.1	5.7	5.2	3.7

Livestock by Land Class

Sorted according to type of farm, quite significant differences in livestock numbers can be noted. It will be recalled that the type of farm was determined by the labour requirements and the proportion of labour devoted to crops and livestock.



Part of a Holstein herd of good dairy type and quality.



A relatively large flock of sheep grazing on lands of inferior cropping qualities.



A well-bred, dual purpose Shorthorn cow, typical of many found on fluid milk shipping farms in this area.



A typical herd of beef cattle of fair quality and usual size.







Typical dairy barn of the Saskatoon area.



Another well bred herd of dairy cows.



Table XXI.

LIVESTOCK NUMBERS PER FARM ACCORDING TO TYPE OF FARM  
CORY-ASQUITH-LANGHAM AREA, 1943

	Type of Farm			Fluid Milk Shippers
	Crop	General or Mixed	Livestock	
Number of Farms	157	125	86	124
(Animal units per farm)				
Cattle	4.4	8.6	12.1	22.0
Hogs	1.6	3.8	3.7	1.8
Sheep	0.1	0.2	1.2	0.3
Poultry	0.6	0.7	0.8	0.7
Total Productive Livestock	6.7	13.3	17.8	24.8
Number of Work Horses	4.9	5.3	4.9	6.0

Livestock by Farm Type:

It will be noted from Table XXI that the total productive livestock on general or mixed farms was about double that found on crop farms; productive livestock on livestock farms was about three times and on the farms producing fluid milk was about four times that found on the crop farms.

The differences are largely accounted for again by the amounts of cattle kept on the various types of farms. Hogs are found in greater numbers on the livestock and general or mixed farms.

Machinery and Equipment

Farms in this area were relatively well mechanized. Particularly was this so for the crop farms and those producing fluid milk. Table XXII shows the relation of numbers of special farm equipment to predominant land class.



Table XXII

NUMBERS OF SPECIAL FARM EQUIPMENT PER 100 FARMS ACCORDING TO  
LAND CLASS. CORY-ASQUITH-LANGHAM AREA, 1943

	Land Class I					Land Class II				
	Live Ge-		Fluid		Total	Live Ge-		Fluid		Total
	Crop	Stock	neral	Milk		Crop	Stock	neral	Milk	
Number of Farms	25	46	23	46	140	55	32	46	39	172
	Number per 100 farms									
Tractors	40.0	28.3	39.1	71.7	46.4	45.5	37.5	34.8	87.2	50.6
One Way Discs	32.0	13.0	30.4	17.4	20.7	34.5	25.0	43.5	66.7	42.4
Combines	12.0	4.3	-	2.2	4.3	10.9	-	4.3	12.8	7.6
Threshing	-	10.9	17.4	32.6	17.1	16.4	25.0	10.9	38.5	21.5
Machines										
Trucks	28.0	17.4	21.7	23.9	22.1	41.8	25.0	8.7	30.8	27.3
Automobiles	40.0	45.7	30.4	63.0	47.9	41.8	50.0	50.0	84.6	55.2
Milking	-	4.3	-	21.7	8.6	-	3.1	-	38.5	9.3
Machines										

	Land Class III				Total	Land Class IV				Total
	Live Ge-		Fluid			Live Ge-		Fluid		
	Crop	Stock	neral	Milk		Crop	Stock	neral	Milk	
Number of Farms	59	8	48	34	149	18	-	8	5	31
	Numbers per 100 farms									
Tractors	69.5	87.5	70.8	85.3	73.8	72.2	-	87.5	100.0	80.6
One Way Discs	37.3	25.0	41.7	67.6	45.0	50.0	-	50.0	100.0	58.1
Combines	30.5	50.0	18.7	23.5	26.2	44.4	-	50.0	-	38.7
Threshing	30.5	25.0	27.1	41.2	31.5	22.2	-	25.0	40.0	25.8
Machines										
Trucks	44.1	75.0	16.7	44.1	36.9	55.6	-	37.5	40.0	48.4
Automobiles	59.3	25.0	77.1	82.4	68.5	61.1	-	62.5	100.0	67.7
Milking										
Machines	-	12.5	-	32.4	8.1	-	-	-	80.0	12.9

The greatest difference in frequency of any kind of machine as between land classes was that of combines. Significant differences can also be noted for tractors and one way discs. Due to the adaptability of combines to this area, threshing machines were being displaced.

The rate of displacement has been retarded of late due to present shortages of machines coupled with the need for saving straw, particularly on the livestock, mixed and fluid milk farms. About one-half of the farms located predominantly in Land Class IV had a truck and less than one-quarter in Land Class I.

The situation in connection with special farm equipment according to type of farming is given in Table XXIII.

Table XXIII.

NUMBERS OF SPECIAL FARM EQUIPMENT PER 100 FARMS ACCORDING TO  
TYPE OF FARM. CORY-ASQUITH-LANGHAM AREA, 1943

	Crop	Livestock	Type of Farm		All Types
			General	Fluid Milk	
Number of Farms	157	86	125	124	492
Numbers per 100 farms					
Tractors	56.7	37.2	52.8	81.5	58.5
One Way Discs	36.9	18.6	40.8	50.0	38.0
Combines	22.3	7.0	12.0	11.3	14.2
Threshing Machines	19.7	17.4	19.2	37.1	23.6
Trucks	42.0	25.6	16.0	32.3	30.1
Automobiles	50.3	45.3	57.6	76.6	57.9
Milking Machines	-	4.7	-	32.3	8.9

#### Field Power

An analysis of the type of power in this area during the crop year 1942 reveals the fact that 198 farmers, or about 40 per cent, used only horses as a source of power. About 36 per cent employed a combination of horse and tractor and approximately 18 per cent used tractors only. Field power was hired on about 6 per cent of all farms.

The high proportion of farmers using only horses as a source of power indicates that this type is still very important in areas of the Province where types of farming other than wheat are important.

Particularly is this so on the poorer grades of land. About half the farms in this area in Land Class I (submarginal for wheat production) and Land Class II (marginal for wheat production) were operated by horse power only. The proportion decreased noticeably for Land Classes III and IV.

Table XXIV.

NUMBER AND PERCENTAGE OF FARMS IN THE VARIOUS TYPE OF POWER GROUPS  
ACCORDING TO PREDOMINANT LAND CLASS  
CORY-ASQUITH-LANGHAM AREA, 1943

	Land Class										
	I		II		III		IV		Total		
	No.	%	No.	%	No.	%	No.	%	No.	%	
<u>Horse operated only</u>	68	48.6	84	48.8	41	27.5	5	16.1	198	40.2	
<u>Tractor only</u>											
With 3 or less work horses & no custom work performed	8	5.7	8	4.7	9	6.1	1	3.2	26	5.3	
With 3 or less work horses & up to \$299 custom work	6	4.3	6	3.5	14	9.4	11	35.5	37	7.5	
With 3 or less work horses & \$300 & over custom work	4	2.9	8	4.6	10	6.7	2	6.5	24	4.9	
Total tractor only	18	12.9	22	12.8	33	22.2	14	45.2	87	17.7	
<u>Horse and Tractor</u>											
Tractor & 4 or more work horses, no custom work performed	22	15.7	24	14.0	24	16.1	5	16.1	75	15.3	
Tractor & 4 or more work horses and up to \$299 custom work	3	2.1	16	9.3	22	14.8	1	3.2	42	8.5	
Tractor & 4 or more work horses and \$300 & over custom work	13	9.3	20	11.6	23	15.4	4	12.9	60	12.2	
Total horse and tractor	38	27.1	60	34.9	69	46.3	10	32.2	177	36.0	
<u>Hired power only</u>	16	11.4	6	3.5	6	4.0	2	6.5	30	6.1	
TOTAL	140	100.0	172	100.0	149	100.0	31	100.0	492	100.0	

Only about 13 per cent of the farmers located in Land Classes I and II operated their farms by means of tractor power only, contrasted with about 45 per cent for farmers on good wheat land.

The shortage of available labour was indicated in the relatively high proportion of farmers who hired the work done during 1942. This proportion was highest in Land Class I and mainly for crop farms on this grade of land. The extensive nature of their operations, the larger acreage of cropland and the shortage of labour are probable explanations.

The various gradations of farms using tractor power only and horse and tractor combinations are also revealed in this table.

The 198 farms, which used horses only as a source of field power, averaged 227 acres of cropland; the 87 tractor operated farms averaged 352 acres; and the 177 farms on which varying combinations of horse and tractor power were used averaged 430 acres of cropland. Thirty farms were operated by having the field work hired and they averaged 182 acres.



Table XXV.

NUMBER AND PERCENTAGE OF FARMS IN THE VARIOUS TYPE OF POWER GROUPS  
ACCORDING TO TYPE OF FARM. CORY-ASQUITH-LANGHAM AREA, 1943

Type of Power	Type of Farm							
	Crop		Live-Stock		Fluid Milk		General or Mixed	
	No.	%	No.	%	No.	%	No.	%
<u>Horse operated only</u>	62	39.5	52	60.5	24	19.4	60	48.0
<u>Tractor only</u>								
With 3 or less work horses & no custom work performed	14	8.9	2	2.3	6	4.8	4	3.2
With 3 or less work horses & up to \$299 custom work	13	8.2	5	5.8	7	5.7	12	9.6
With 3 or less work horses & \$300 & over custom work	12	7.6	2	2.3	5	4.0	5	4.0
<u>Total Tractor only</u>	39	24.8	9	10.4	18	14.5	21	16.8
<u>Horse and tractor</u>								
Tractor & 4 or more work horses, no custom work performed	15	9.6	8	9.3	37	29.8	15	12.0
Tractor & 4 or more horses, up to \$299 custom work	13	8.3	2	2.3	10	8.1	17	13.6
Tractor & 4 or more work horses & \$300 and over custom work	14	8.9	9	10.5	29	23.4	8	6.4
<u>Total horse and tractor</u>	42	26.8	20	22.1	76	61.3	40	32.0
<u>Hired power only</u>	14	8.9	6	7.0	6	4.8	4	3.2
<u>TOTAL</u>	157	100.0	86	100.0	124	100.0	125	100.0

Farm Labour

In this study account was taken of the estimated supply of farm labour. The paid labour was estimated by the farmer for the day help, help hired by the month and by the year. The unpaid labour supplied by the farm families was estimated in terms of the months of paid labour which would have had to be engaged in their place. The operators

gave estimates of their own time.

The total months of labour averaged 19.1 for the 492 farms and was divided as follows: 3.4 months of paid labour, 4.0 months of unpaid labour and 11.7 months supplied by the operator. The average size of farm in terms of acres of cropland was 319 and there was a total of 14.9 productive livestock units per farm.

Table XXVI.

AMOUNT OF FARM LABOUR ACCORDING TO PREDOMINANT LAND CLASS  
CORY-ASQUITH-LANGHAM AREA, 1943.

	Predominant Land Class							
	I		II		III		IV	
Number of farms	140		172		149		31	
Months per farm								
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Paid Labour	2.5	14.1	3.1	15.7	4.2	21.4	5.0	26.0
Unpaid Labour	3.4	19.2	5.0	25.2	3.8	19.4	2.9	15.1
Total (exclusive of operator)	5.9	33.3	8.1	40.9	8.0	40.8	7.9	41.1
Operator	11.8	66.7	11.7	59.1	11.6	59.2	11.3	58.9
Total Farm Labour	17.7	100.0	19.8	100.0	19.6	100.0	19.2	100.0
Acres of Cropland	220		322		386		430	
Productive Livestock Units	16.5		14.7		14.2		12.4	

When relating the labour supply on farms in this area during the crop year ending April 30, 1943, to the man equivalents required for crops and livestock enterprises according to the standard set up to determine type of farm, (see foot note page 33), quite striking differences were noted.

The average labour supply on farms located predominantly in Land Class I was 17.7 months, and the labour requirements according to the standard situation of one man equivalent handling 339 acres of cropland or 38 productive livestock units was 13.2 months. This gave an average ratio of requirement of labour to the present supply of labour on this grade of land of 74.6. In a similar manner the ratio of labour requirements to the present supply was 78.8 for farms located in Land Class II, 91.8 for farms in Land Class III and 100.0 in Land Class IV. The ratio of labour requirements to the present supply of all farms (492) was 81.7. The ratio of labour requirements to the present supply on the 157 crop farms was 96.3; on 86 livestock farms it was 76.3; on 125 general or mixed farms it was 80.4 and for 124 farms producing fluid milk it was 83.6. Crop farms had the highest ratio of any type of farm on all grades of land, followed by fluid milk shipping farms, general or mixed farms. Livestock farms had the lowest ratio. This analysis indicates the comparative advantages of farmers devoting their labour mainly to crop production and also those located on the better grades of land. This comparative advantage has been brought about mainly through the increase in size of farm made possible by mechanization of farm power and equipment.

#### SOURCES OF INCOME IN 1942

Farmers in this area derived their income from many sources. For the 492 farms included in this study, 25.5 per cent of the gross income came from the current sales of wheat and 1.4 per cent from the sales of grain (mostly wheat) held over from previous crops. In 1942 wheat acreage reduction bonuses averaged \$125 or 3.9 per cent of gross income.

Sales of other farm produce, which in this area were mainly fluid milk, cream and some butter, eggs and garden produce, averaged \$844 or 26.4 per cent and exceeded the receipts from current sales of wheat. Livestock sales averaged \$482 during the 1942-43 crop year, which was only slightly less than the gross income from the sales from oats, barley, rye, flax and other crops.

Arranged according to predominant land class, the sources and average amounts are given in Table XXVII.

Table XXVII.

AVERAGE FARM RECEIPTS ACCORDING TO PREDOMINANT LAND CLASS  
CORY-ASQUITH-LANGHAM AREA, 1943

	Land Class				All Farms
	I	II	III	IV	
No. of Farms	140	172	149	31	492
	\$	\$	\$	\$	\$
Wheat sales	259	844	1149	1584	817
Other crop sales	264	427	744	1050	516
Livestock sales	422	439	597	437	482
Other farm produce	1002	803	779	663	844
Equipment sales	54	53	144	68	82
Custom work	171	221	318	209	235
Previous year's crop	27	19	78	100	44
Wheat Acreage Reduction Bonus	89	125	148	187	125
Other farm receipts	67	48	54	25	54
Total	2355	2979	4011	4323	3199

	Land Class				All Farms
	I	II	III	IV	
No. of farms	140	172	149	31	492
	Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
Wheat sales	11.0	28.3	28.7	36.7	25.5
Other crop sales	11.2	14.3	18.6	24.3	16.1
Livestock sales	17.9	14.8	14.9	10.1	15.1
Other farm produce	42.6	27.0	19.4	15.3	26.4
Equipment sales	2.3	1.8	3.6	1.6	2.6
Custom work	7.3	7.4	7.9	4.8	7.3
Previous year's crop	1.1	0.6	1.9	2.3	1.4
Wheat Acreage Reduction Bonus	3.8	4.2	3.7	4.3	3.9
Other farm receipts	2.8	1.6	1.3	0.6	1.7
Total	100.0	100.0	100.0	100.0	100.0



All crop farms averaged \$2879 gross receipts during that year as compared with \$2017 for all livestock farms, \$2559 for all mixed farms and \$5069 for all farms producing fluid milk. The variations in amounts and proportions for the various items are shown in Table XXVII.

Assuming the receipts from previous year's crop to be wheat sales and crediting wheat acreage reduction bonus also to wheat, the proportion of gross receipts from wheat was 47.5 per cent on the crop farms, 20.2 per cent on the livestock farms, 36.1 per cent on the mixed farms and 18.5 per cent on the farms producing fluid milk. Receipts from all the crop sales were 71.2, 34.5, 53.5 and 29.7 per cent for the above respective farm types.

Table XXVIII

AVERAGE FARM RECEIPTS ACCORDING TO TYPE OF FARM  
CORY-ASQUITH-LANGHAM AREA, 1943

	Type of Farm			
	Crop	Live- stock	General or Mixed	All Fluid Milk Farms
No. of farms	157	86	125	124
	\$	\$	\$	\$
Wheat sales	1142	348	775	772
Other crop sales	682	242	445	568
Livestock sales	274	657	566	540
Other farm produce	191	440	293	2504
Equipment sales	82	28	96	105
Custom work	210	151	186	375
Previous Year's crop	75	15	37	34
Wheat Acreage Reduction Bonus	148	91	112	132
Other farm receipts	75	45	49	39
Total	2879	2017	2559	5069

	Type of Farm			
	Crop	Live- stock	General or Mixed	All Fluid Milk Farms
No. of farms	157	86	125	124
	Per Cent	Per Cent	Per Cent	Per Cent
Wheat sales	39.7	17.3	30.3	15.2
Other crop sales	23.7	12.0	17.4	11.2
Livestock sales	9.5	32.6	22.1	10.6
Other farm produce	6.6	21.8	11.4	49.4
Equipment sales	2.8	1.4	3.8	2.1
Custom work	7.3	7.5	7.3	7.4
Previous year's crop	2.6	0.7	1.4	0.7
Wheat Acreage Reduction Bonus	5.2	4.5	4.4	2.6
Other farm receipts	2.6	2.2	1.9	0.8
	100.0	100.0	100.0	100.0

Crop farms had the lowest current operating expenses of any farm type on each respective land class, followed by general or mixed farms, livestock farms and farms producing fluid milk.

Arranged by type of farm, livestock farms showed an average of \$892 on farm expenses; general or mixed farms \$1146; crop farms \$1337 and fluid milk shipping farms \$2319. Table XXX on a per acre of cropland basis, the current operating expenses amounted to \$3.53 for crop farms, \$4.02 for general or mixed farms, \$4.74 for livestock farms and \$6.30 for farms producing fluid milk.

Table XXX.

AVERAGE FARM EXPENSES ACCORDING TO TYPE OF FARM  
CCRY ASQUITH-LANGHAM AREA, 1943

	Type of Farm							
	Crop	Live-stock		General or Mixed		Fluid Milk Shippers		
Number of farms	157	86		125		124		
	\$	Per Cent	\$	Per Cent	\$	Per Cent	\$	Per Cent
Taxes on real estate	122	9.1	58	6.5	94	8.2	129	5.6
Tractor costs	174	13.0	55	6.2	110	9.6	237	10.2
Combine and separator	36	2.7	10	1.1	17	1.5	25	1.1
Auto (farm use)	30	2.2	25	2.8	34	3.0	54	2.3
Truck costs	75	5.6	38	4.3	28	2.5	71	3.1
Seed purchased	72	5.4	36	4.0	46	4.0	76	3.3
Custom farm work	280	21.0	155	17.4	257	22.4	469	20.2
Paid labour	139	10.4	83	9.3	107	9.3	406	17.5
Board of paid labour	21	1.6	12	1.3	18	1.6	79	3.4
Other cash expenses	258	19.3	247	27.7	256	22.3	509	21.9
Total current operating expenses	1207	90.3	719	80.6	967	84.4	2055	88.6
Board of unpaid labour	21	1.6	26	2.9	24	2.1	46	2.0
Unpaid labour	109	8.1	147	16.5	155	13.5	218	9.4
Total farm expenses	1337	100.0	892	100.0	1146	100.0	2319	100.0

# OPERATING STATEMENT

The various aspects of the farm business have been dealt with in the preceding sections. It remains to summarize these into operating statements. These are given in Table XXXI arranged according to predominant land class.

The general picture shows that farmers located in Land Class I and II had relatively low net incomes<sup>1</sup> for the crop season of 1942-43, and also did not enjoy as high a level of living as farmers in Land Classes III and IV. The productive capacity of the average farm set-up in Land Classes I and II was limited by size of farm and crop yields, as compared with those in Land Classes III and IV. The increased amounts of livestock on the average farm in Land Classes I and II was not sufficient to offset the comparative advantages enjoyed from the more productive Land Classes III and IV.

Table XXXI.

AVERAGE OPERATING STATEMENT PER FARM ACCORDING TO PREDOMINANT LAND CLASS. CORY-ASQUITH-LANGHAM AREA, 1943

	Land Class				All
	I	II	III	IV	Farms
	\$	\$	\$	\$	\$
Receipts:					
Wheat	259	844	1149	1584	817
Other crops	264	427	744	1050	516
Livestock and livestock products	1424	1242	1376	1100	1326
Other	408	466	742	589	540
Total	2355	2979	4011	4323	3199
Expenses:					
Current operating	907	1220	1604	1654	1275
Capital expenditures	522	553	805	583	622
Total	1429	1773	2409	2237	1897

1. See page      for description of various measures of farm net returns.

Receipts minus expenses	926	1206	1602	2086	1302
Net increase in inventories	616	1038	1492	1608	1091
Net farm income	1542	2244	3094	3694	2393
Cash family living	<u>693</u>	<u>745</u>	<u>822</u>	<u>866</u>	<u>761</u>
Net income	849	1499	2272	2828	1632
Number of farms	140	172	149	31	492
	ac.	ac.	ac.	ac.	ac.
Average size:					
Farm land	431	449	485	487	457
Grazing lease	45	17	14	15	24
Total operated	476	466	499	502	481
Cropland	220	322	386	430	319
Wheat	37	88	120	148	87
Coarse grains (oats and barley)	91	100	115	111	103
	Bus.	bus.	bus.	bus.	bus.
Average yields per acre (1942)					
Wheat	15.3	21.8	24.9	27.8	23.0
Oats	26.4	34.8	44.6	43.1	35.9
Barley	10.3	15.7	21.3	20.1	16.1
	No.	No.	No.	No.	No.
Productive livestock units	16.5	14.7	14.2	12.4	14.9

When a specialized livestock enterprise, such as the production of fluid milk for market, was added to the average crop farm in this area, very significant increases in net income were realized. This was the situation with the farms producing fluid milk. These farms were close to the average cropland size of the crop farms, and had additional grazing land and approximately 19 more productive animal units. The additional enterprise resulted in higher incomes. Summaries of operating statements of the various farm types, arranged by predominant land class, are found in the appendix.

#### NET WORTH OF FARM OPERATORS

Estimated values were given by the farm operator of all items of farm capital and other assets. The present indebtedness was also recorded and in this manner the present net worth was obtained.



It was not surprising to note that land was the most important form of farm capital. In this area farm real estate accounted for 42.0, 48.3, 53.3, and 50.0 per cent of total assets of owner operator farms located in Land Classes I, II, III and IV. Within each predominant land class farm real estate generally was a higher proportion of the total farm capital on crop farms, than on livestock farms.

The statement of net worth of owner operators at the end of the year under review is shown in Table XXXII.

Table XXXII

AVERAGE NET WORTH OF OWNERS ONLY ACCORDING TO PREDOMINANT LAND CLASS. CORY-ASQUITH-LANGHAM AREA, 1943

	Land Classes			
	I	II	III	IV
Number of farms	50	67	57	15
	End of Year			
	\$	\$	\$	\$
Farm real estate	3293	4650	10261	7893
Livestock	1579	1423	1503	1085
Machinery and equipment	1107	1299	2416	2233
Feeds and supplies	384	755	1998	1942
Seed	143	186	254	248
Other assets	<u>1337</u>	<u>1323</u>	<u>2820</u>	<u>2380</u>
Total assets	<u>7843</u>	<u>9636</u>	<u>19252</u>	<u>15781</u>
Total liabilities	<u>1593</u>	<u>2927</u>	<u>3365</u>	<u>3808</u>
Net worth	6250	6709	15887	11973
	Beginning of Year and Change			
Total assets 1942	7069	8676	17413	13730
Increase in assets 1942-43	774	960	1839	2051
Total liabilities	1503	3039	3668	4282
Change in liabilities 1942-43	90	112	303	474
Net worth 1942	5566	5637	13745	9448
Increase in net worth 1942-43	684	1072	2142	2525

Livestock made up about 29 per cent of total assets of farms in Land Class I and approximately 7 per cent of farms in Land Class IV. In Land Class I, livestock made up about 26 per cent on livestock farms, 21 per cent on general or mixed farms, 21 per cent on fluid milk shipping farms and only about 8 per cent on crop farms. The average livestock valuation on general or mixed farms in Land Class IV was about 8 per cent of total assets; 10 per cent on farms producing fluid milk and 5 per cent on crop farms. There were no livestock farms in Land Class IV.

Increases in net worth for the 1942-43 crop year were substantial. Particularly was this so on crop and fluid milk farms located in each of the different classes of land. Farmers on crop farms increased their net worth during the year by \$654 in Land Class I, \$1425 in Land Class II, \$2074 in Land Class III and \$2390 in Land Class IV. Dairy farmers in Land Classes III and IV increased their net worth more than did farmers on crop farms; in Land Classes I and II, these two farm types had about the same increase in net worth, and both types indicated greater gains than livestock and mixed farms.

#### FINANCIAL PROGRESS

##### Financial Success in Crop Year Ending April 30, 1943

During the year under review, farms of all types and in all land classes net returns were above average. The gain in net worth for owners in Land Class I was \$684, \$1072 in Land Class II, \$2142 in Land Class III and \$2525 in Land Class IV. Increases were due mainly to the high average yields of grains and to higher prices of farm products in 1942

as compared with the longer period. As a result, assets (largely in increased inventories of livestock, feeds, supplies and seed on hand) became larger. The liabilities on owner-operated farms were reduced substantially in all classes of land except in Land Class I. Those located in Land Class I averaged \$1593 in liabilities at the end as compared with \$1503 at the beginning of the year; those in Land Class II averaged \$2927 at the end and \$3039 at the beginning; those in Land III averaged \$3365 at the end and \$3668 at the beginning; those located in Land Class IV averaged \$3008 at the end and \$4282 at the beginning.

The usual measures of farm net returns by types during the current year, namely, Labour earnings<sup>1</sup> and Net income<sup>2</sup>, for 1942-43 are given in Table XXXII.

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1. Labour earnings is the measure obtained by adding the value of farm perquisites to Labour income. Labour earnings, therefore, is the return to the operator for his labour and management after paying all farm expenses and allowing for depreciation and interest on farm capital.

In addition labour earnings includes an allowance for use of farm house and farm products consumed on the farm. Interest rate used was 5 per cent; 10 per cent of value of house was used for rent value and farm products consumed were valued at what was received for similar products where sold.

2. Net income, or the surplus over farm operating and maintenance costs and family living, measures the amount of revenue available to the operator for increases in his standard of living or for making savings in the form of capital investments or the reduction of indebtedness. A negative net income indicates that the farmer either increased his indebtedness during the year, failed to maintain his farm capital or accepted a lower level of living than he would have with a positive income.

Table XXXIII

MEASURES OF FINANCIAL SUCCESS ACCORDING TO PREDOMINANT LAND CLASS  
AND TYPE OF FARM. CORY-ASQUITH-LANGHAM AREA, 1943

Type of Farm	Land Class				All Classes
	I	II	III	IV	
	Labour Earnings				
	Dollars				
Crop	966	1534	2389	3061	1940
Livestock	1281	1540	2368	-	1478
General or Mixed	943	1525	2368	2129	1780
Fluid Milk	1944	3303	3667	5146	2973
All Types	1387	1934	2673	3157	2081

Type of Farm	Land Class				All Classes
	I	II	III	IV	
	Net Income Dollars				
Crop	558	1186	2072	2776	1602
Livestock	720	1016	1796	-	930
General or Mixed	522	1019	1842	1799	1293
Fluid Milk	1300	2905	3336	4661	2498
All Types	849	1499	2272	2828	1632

The ten farms with highest Net income for each type averaged \$6225, \$3026, \$5002 and \$8095 for crop, livestock, mixed and fluid milk farms. Over ninety per cent of the high income crop farms were located in Land Classes III and IV (fair or good wheat land), eighty per cent of the mixed farms, sixty per cent of the fluid milk farms and only 30 per cent of the livestock farms.

### Net Income and Size

The ten crop farms having the lowest net income for the 1942-43 crop year averaged 258 acres of cropland and the ten highest 780 acres. Livestock farms in the ten low and ten high net income groups averaged 155 and 358 acres of cropland; mixed farms in the same respective groups averaged 214 and 597 acres of cropland and the fluid milk shipping farms averaged 191 and 790 acres of cropland, respectively.

### Financial Progress of Farmers During Their Term of Occupancy

Financial progress of farmers in this area was measured by the average yearly gain in net worth over their period of occupancy. This was determined by deducting from present net worth<sup>1</sup> the net worth at commencement of farming and any revenue derived from non-farm sources.

Table XXXIV gives the average yearly gain in net worth for the various types of farms on different grades of land. Land Classes I and II (submarginal and marginal for wheat production) have been grouped together for the purpose of this analysis, and Land Classes III and IV (fair and good wheat lands) were also combined.

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1. Values of assets were calculated from estimates placed on all assets, such as real estate in the form of land, by the farm operator, on the basis of a reasonably long-time productive capacity valuation. Assets such as machinery and equipment, livestock and feeds and supplies were valued at current market values. From this total valuation was deducted the present indebtedness to give the picture of present net worth.



Table XXXIV.

AVERAGE FINANCIAL PROGRESS OF FARMERS ACCORDING TO PREDOMINANT LAND CLASS AND TYPE OF FARM. CORY-ASQUITH-LANGHAM AREA, 1943

Type of Farm	No. of Farms	Land Classes I and II		Average Yearly Gain in Net Worth
		No. of Years On Present Farms	Acres Crop- land	
Crop	80	15.4	327	160
Livestock	78	14.8	183	284
Mixed	69	14.1	237	288
Fluid Milk shippers	85	17.6	345	588
Total	312	15.6	276	336
Type of Farm	No. of Farms	Land Classes III and IV		Average Yearly Gain in Net Worth
		No. of Years On Present Farms	Acres Crop- land	
Crop	77	17.0	433	593
Livestock	8	11.8	244	617
Mixed	56	16.1	346	468
Fluid Milk shippers	39	21.7	417	733
Total	180	17.5	394	585
Type of Farm	No. of Farms	All Land Classes		Average Yearly Gain in Net Worth
		No. of Years On Present Farms	Acres Crop- land	
Crop	157	16.2	379	372
Livestock	86	14.5	188	315
Mixed	125	15.0	286	369
Fluid Milk shippers	124	18.9	368	633
Total	492	16.3	319	427

Average yearly gain in net worth was greater for farms on Land Classes III and IV than for those in the lower land classes. This relationship held for all types of farms, but was more pronounced on the crop farms than on the other types.

Fluid milk shippers had the highest average yearly gain in net worth in all land classes.

The percentage increase in average yearly gain in net worth for Land Classes III and IV, as compared with Land Classes I and II, was highest for crop farms and lowest for fluid milk shipping farms. The comparative advantage of farms located on the better grades of land, appears to be with crop farms and on the poorer grades of land with fluid milk shippers.

It was not possible to say how long farms designated at present as of a certain type of farm had been of that type. It will be noted, however, that there is no significant difference in number of years on the present occupancy as between the crop, livestock, mixed and fluid milk farms. As the size of farm averages about the same for crop farms and fluid milk farms, the difference in average yearly gain may be attributed to the success of the dairy enterprise, and this was more pronounced on the inferior grades of land.

One other point of interest shown by Table XXXIV is that the average yearly gain in net worth of fluid milk shippers located on Land Classes I and II (\$588), was about the same as that attained by those other farm types located on the superior grades of land.

The market in nearby Saskatoon encouraged farmers in the production of fluid milk. Subsidies paid by the Federal Government to the whole milk producers also encouraged milk production. Most other areas in the transition soil zone and in the parkland region of the province have not such a fluid milk market. However, in these other areas, the comparative advantages of the other farm type in the various grades of land, would probably bear the same relationship as revealed in Table XXXIV.

The present economic classification of land, which is based on the suitability of land for wheat production, appears to be a satisfactory relative measure irrespective of the type of farming practised. Due to the varying combinations of land, labour and capital found on these various farm types, however, the economic margin may be at different levels.

#### THE DISTRIBUTION OF FARM DEBT AND DEBT PAYING CAPACITY

While increases in total assets and net worth were shown for crop and fluid milk shipping farms in Land Class I, average increases in liabilities were also incurred. Very substantial decreases in liabilities were indicated for farmers in other land classes and for each farm type. These reductions in liabilities were larger in the higher land classes.

Table XXXV shows the percentage distribution of land debt arranged by predominant land class.

Table XXXV.

#### PERCENTAGE DISTRIBUTION OF ALL OWNER FARMERS HAVING LAND DEBT WITH KIND ACCORDING TO PREDOMINANT LAND CLASS CORY-ASQUITH-LANGHAM AREA, 1943.

	Predominant Land Class				Total
	I	II	III	IV	
	Per Cent				
Agreements for sale	46.0	50.7	38.6	20.0	43.4
Mortgages	16.0	23.9	22.8	80.0	25.9

Table XXXVI gives the average debt statement for owners by pre-dominant land class at the end of the year, as well as new debt incurred during the year and payments on principal and interest.

Table XXXVI.

DEBT STATEMENT OF OWNER OPERATOR FARMS ACCORDING TO PREDOMINANT LAND CLASS. CORY-ASQUITH-LANGHAM AREA, 1943

	Predominant Land Class			
	I	II	III	IV
	\$	\$	\$	\$
Agreements for sale	858	1467	1619	533
Mortgages	280	596	1172	2393
Implements	38	73	47	93
Other	417	791	527	789
Total	1593	2927	3365	3808
Total new debt 1943	256	160	192	93
Payments 1943				
Principal	166	272	495	567
Interest	44	89	125	185
Total	210	361	620	752
Number of Farms	50	67	57	15

New debt was in excess of payments of principal and interest on farms in Land Class I. Even in a good crop year, such as 1942-43, with high yields and relatively high farm prices, those located on submarginal land for wheat production were not able to reduce their indebtedness.

For farms in the higher land classes while there was new debt created during the crop year 1942-43, payments on principal and interest more than offset it for farms on all classes above Land Class I.

A distribution of farms arranged according to the debt per acre of cropland revealed that 18.6 per cent of the farms in Land Class I had no debt at the end of the year, as compared with 9.7 per cent in Land Class IV.

The proportion of farms having a debt up to \$10.00 per acre of cropland was 57.8, 59.4, 59.7 and 61.3 per cent for Land Class I, II, III and IV, respectively. Between \$11.00 and \$20.00, the proportion was 16.5, 19.7, 14.1 and 2.9 per cent for the same land classes. Over \$20.00 debt per acre of cropland the proportion was 7.1, 8.7, 8.1 and 16.1 per cent of all farms in Land Classes I, II, III and IV, respectively.

#### SUMMARY AND CONCLUSIONS

The economic classification of land in the Cory-Asquith-Langham area was made on the basis of 'wheat use capability' as employed in other prairie areas. The summary indicated 31.2 per cent of the total area rated as Land Class I, submarginal; 30.7 per cent rated as Land Class II, marginal; 29.0 per cent rated as Land Class III, fair wheat land; 8.4 per cent rated as Land Class IV, good wheat land; and only 0.6 per cent rated as Land Class V, excellent wheat land. The distribution indicated nearly equal percentages of the first three grades of Land for the whole survey area but a breakdown of municipalities showed that higher percentages of superior type land was found in the R.M. of Cory as compared with the balance of the area.

About 86 per cent of all lands were privately owned. This was higher than for comparable areas in prairie areas. Practically all the superior type of lands were privately owned while Crown, municipal, railway and mortgage ownership was more common on the poorer grades of land.



Nearly one-fifth of all farms were wholly or predominantly located on lands deemed submarginal for wheat while an additional one-third were on marginal wheat land. Those in Land Classes I, II and III averaged about 410 acres in size while farms on Land Classes IV and V averaged 474 and 625 acres, respectively. Arability was higher on the lands graded as fair to superior and these facts suggested some adjustment in land use in the lower brackets.

Average yields of wheat for the long time period (1921-1942) ranged from 11.2 to 15.3 bushels for the sandy and coarse textured soils to the clay and heavy clay soils. The higher moisture efficiency of soils of this area as compared with soils of a comparable type in prairie areas is reflected by a range from 7.0 to 15.6 bushels in the Eyebrow-Lacadena area.

An indication of the manner by which other crops and farm organizations other than a single wheat enterprise can compete successfully in this area is shown by the type of farm analysis. On lands graded as submarginal for wheat production only 18 per cent of the farms were crop farms, 16 per cent were mixed crop and livestock farms and nearly two-thirds were beef or dairy livestock farm types. The importance of livestock decreased and that of wheat increased as the grade of land improved until in Land Class IV 58 per cent of the farms were classed as crop farms, 26 per cent as mixed farms, 16 per cent as fluid milk farms and there were no livestock farms.

In this area, livestock numbers averaged approximately 25 per cent more on the poorer grades of land. A breakdown of classes of livestock indicated significantly higher numbers of cattle in the poorer lands and significantly higher numbers of hogs on the superior types of land. Livestock intensity was relatively higher for all grades of land in this area as compared with similar land classes in true prairie areas.

In 1942, a relatively good crop year in this area, about one-quarter of the gross income of farms was derived from the current sales of wheat. Sales from farm produce, largely fluid milk, cream, eggs and the garden slightly exceeded the current wheat sales. Livestock sales were about 16 per cent of gross income while sales from coarse grains and crops other than wheat were only slightly less. Receipts ranged from about \$2400 to approximately \$4300 for farms on Land Classes I to IV while the average receipts for farm types other than the fluid milk producers varied from \$2000 to \$2800. Receipts for the fluid milk farms averaged \$5069.

The Net Income or surplus above all operating and farm living expenses used as a measure of financial success indicated that farms on Land Class IV exceeded those on Land Class I by a ratio of at least three to one. In addition, farmers on this grade of land enjoyed a higher level of living. For each grade of land, however, when a specialized livestock enterprise, such as the production of fluid milk for market, was added to the average crop farm very significant increases in Net Income were realized as compared with crop farms.

Measuring financial progress over a long time period by the average yearly gain in net worth, the fluid milk farms had the highest figure, followed by crop and livestock farms and the mixed farms for each land class. Average yearly gains in net worth were greater for all farm types on Land Classes III and IV as compared with Land Classes I and II. This increase, however, was much greater for some farm types than others. The yearly rate for farms on Land Classes III and IV was 3.7 times greater than farms on Land Classes I and II for crop farms; 2.2 times for livestock farms; 1.6 times for mixed farms; and 1.2 times for fluid milk farms. This would suggest a comparative advantage for crop farms on the better grades of land and for fluid milk shippers and to some extent livestock farms on the poorer grades of land.

The favourable position indicated for fluid milk shippers when analyzed from every point of view needs a word of comment. Areas in the parkland region of the province and outside a milkshed such as that of the Saskatoon milkshed would not enjoy this advantage and the production of beef cattle, breeding animals, cream and hogs offer the only practical alternatives to grain growing. For the poorer grades of land these alternatives can be used to best advantage to improve the family living and financial success as well as to offer a more desirable use of land.

As compared with the prairie region, the transitional prairie and parkland and the true parkland regions are in a decidedly more adaptable position with respect to livestock. Based on the present levels of efficiency, however, with that crop production being superior to livestock production grades of land of superior type are likely to be utilized mainly for cereal crops and the poorer grades of land by a

livestock economy. Greater emphasis on livestock production by the twenty per cent of all farmers in this area on submarginal lands for wheat use would be of much benefit to them and assist in maintaining the land resource.

APPENDIX

Table 1(a)

AVERAGE OPERATING STATEMENT PER FARM ACCORDING TO PREDOMINANT  
LAND CLASS AND TYPE OF FARM. CORY-ASQUITH-LANGHAM AREA, 1943

	Land Class I			
	Crop	Live- stock	General or Mixed	Fluid Milk
	\$	\$	\$	\$
Receipts:				
Wheat	443	238	324	149
Other crops	320	205	283	283
Livestock	213	586	347	410
Livestock products	195	455	190	2392
Other	<u>579</u>	<u>273</u>	<u>296</u>	<u>505</u>
Total	1750	1757	1440	3739
Expenses:				
Current operating	749	591	516	1505
Capital expenditures	<u>485</u>	<u>283</u>	<u>397</u>	<u>843</u>
Total	1234	874	913	2348
Receipts minus expenses	516	883	527	1391
Net increase in inventories	<u>586</u>	<u>483</u>	<u>456</u>	<u>846</u>
Net farm income	1102	1366	983	2237
Cash family living	<u>544</u>	<u>646</u>	<u>461</u>	<u>937</u>
Net income	<u>558</u>	<u>720</u>	<u>522</u>	<u>1300</u>
Number of farms	25	46	23	46
Average size:				
Farm land (acres)	424	375	363	525
Grazing lease (acres)	-	56	-	80
Total operated (acres)	424	431	363	605
Cropland acres	285	165	201	250
Acres wheat	74	28	42	22
Acres coarse grains (oats and barley)	78	63	66	138
Average yields per acre(1942)-bus.				
Wheat	14.9	17.2	14.9	14.0
Oats	26.2	25.4	28.5	26.3
Barley	11.8	9.4	10.1	10.4
Productive livestock units	5.4	17.8	9.4	24.6



APPENDIX

Table 1 (b)

	Land Class II			
	Crop	Live- stock	General or Mixed	Fluid Milk
	\$	\$	\$	\$
Receipts:				
Wheat	1042	401	719	1073
Other crops	529	238	279	615
Livestock	243	698	431	514
Livestock products	184	430	284	2594
Other	428	400	346	716
Total	2426	2167	2059	5512
Expenses:				
Current operating	1073	850	826	2195
Capital expenditures	427	498	272	1107
Total	1500	1348	1098	3302
Receipts minus expenses	926	819	961	2210
Net increase in inventories	901	840	675	1821
Net farm income	1827	1659	1636	4031
Cash family living	641	643	617	1126
Net income	1186	1016	1019	2905
Number of farms	55	32	46	39
Average size:				
Farm land (acres)	466	320	343	657
Grazing lease (acres)	3	5	14	49
Total acres operated	469	325	357	706
Cropland acres	346	209	255	458
Acres wheat	109	45	74	110
Acres coarse grains (oats and barley)	85	79	74	170
Average yields per acre (1942)				
-bus.				
Wheat	21.2	21.7	21.3	22.8
Oats	36.7	34.2	29.6	38.5
Barley	14.1	17.3	14.5	18.2
Productive livestock units	7.0	18.4	12.0	25.5

APPENDIX

TABLE 1 (c)

	Land Class III			
	Crop	Live- stock	General or Mixed	Fluid Milk
	\$	\$	\$	\$
Receipts:				
Wheat	1310	775	1012	1152
Other crops	912	465	630	680
Livestock	333	898	750	769
Livestock products	206	395	336	2492
Other	<u>737</u>	<u>383</u>	<u>698</u>	<u>893</u>
Total	3498	2916	3426	5986
Expenses:				
Current operating	1493	932	1262	2439
Capital expenditures	<u>555</u>	<u>705</u>	<u>617</u>	<u>1527</u>
Total	2048	1637	1879	3966
Receipts minus expenses	1450	1279	1547	2020
Net increase in inventories	1336	1086	1108	2392
Net farm income	2786	2365	2655	4412
Cash family living	<u>714</u>	<u>569</u>	<u>813</u>	<u>1076</u>
Net income	2072	1796	1842	3336
Number of farms	59	8	48	34
Average size:				
Farm land (acres)	508	330	438	546
Grazing lease (acres)	14	-	3	33
Total operated (acres)	522	330	441	579
Cropland acres	426	244	344	411
Acres wheat	134	79	113	118
Acres coarse grains (oats and barley)	111	88	102	148
Average yields per acre (1942) - bus.				
Wheat	25.3	26.2	22.3	27.4
Oats	44.2	35.1	42.8	50.1
Barley	20.0	25.8	19.2	25.3
Productive livestock units	7.0	15.9	15.6	24.2

## APPENDIX

TABLE 1 (d)

	Land Class IV			
	Crop	Live-stock	General or Mixed	Fluid Milk
	\$	\$	\$	\$
Receipts:				
Wheat	1864	-	968	1565
Other crops	899		761	2054
Livestock	263		865	379
Livestock products	161		382	2919
Other	614		470	690
Total	3801		3446	7607
Expenses:				
Current operating	1320		1307	3410
Capital expenditures	268		635	1624
Total	1588		1942	5034
Receipts minus expenses	2213		1504	2573
Net increase in inventories	1374		1000	3424
Net farm income	3587		2504	5997
Cash family living	811		705	1336
Net income	2776		1799	4661
Number of farms	18		8	5
Average size:				
Farm land (acres)	503		397	572
Grazing lease (acres)	-		40	32
Total operated (acres)	503		437	602
Cropland acres	457		352	459
Acres wheat	180		86	132
Acres coarse grains (oats and barley)	88		110	195
Average yields per acre (1942)				
-bus.				
Wheat	26.9		24.9	35.2
Oats	36.6		51.8	52.4
Barley	12.8		23.8	40.8
Productive livestock units	6.5		18.0	24.7









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